

*Appl. No. 09/805,620*

**38. (currently amended) An atomic layer deposition method comprising:**

**injecting a deposition precursor into a deposition chamber defined at least in part by chamber walls and comprising a substrate holder inside the chamber, a first of the chamber walls comprising a lid and the precursor delivery occurring through at least one process chemical port in the lid;**

**exposing a substrate on the substrate holder to the precursor and chemisorbing only one monolayer of precursor material on the substrate in the absence of any additional deposition precursor;**

**ceasing delivery of the precursor and delivering purge material through the process chemical port;**

**while delivering the purge material through the process chemical port, separately delivering a purge material through at least one purge port in the lid, the purge delivery occurring along a part of the chamber walls and through a dead space as to the process chemical port purge material, the purge material not being injected through the purge port during injection of the precursor through the process chemical port; and**

**separating the purge port purge material from a substrate holder with a flow director provided inside the chamber, the flow director being provided to extend into the chamber from at least one of the chamber walls, the flow director extending downward from elevationally above the substrate holder to elevationally below a substrate on the substrate holder.**

**39. (cancelled).**

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40. (previously presented) The method of claim 22, wherein the purge curtain flowing comprises flowing the injected purge material along the chamber walls, wherein the purge curtain is formed between a dead space and an injected precursor to prevent the precursor from migrating into the dead space.

41. (cancelled).

42. (cancelled).

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**43. (currently amended) An atomic layer deposition method comprising:**

**injecting at least one purge material into a deposition chamber defined at least in part by chamber walls, a first of the chamber walls comprising a lid separate and removable from a second of the chamber walls comprising a body and the purge delivery occurring through at least one purge exit port in the lid;**

**injecting a first deposition precursor into the deposition chamber from elevationally above the substrate holder and inside a lateral periphery of the substrate holder through at least one process chemical port in the lid;**

**forming a purge curtain from the injected purge material, the purge curtain extending downward from elevationally above a substrate holder and outside a lateral periphery of the substrate holder and the purge curtain flowing past the substrate holder, the purge material being prevented from flowing towards the substrate holder by a flow director, the flow director being provided inside the chamber to separate the purge curtain and the injected precursor and to minimize backflow of the injected purge material towards the substrate holder, the flow director being affixed to an inside surface of the lid and extending into the chamber from the lid to elevationally below a substrate on the substrate holder;**

**flowing the injected purge material such that the purge curtain is formed between the body and the injected first precursor to prevent the injected first precursor from migrating towards the body;**

**exposing a substrate on the substrate holder to the first precursor and**

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chemisorbing only one monolayer of first precursor material on the substrate, but not chemisorbing some of the injected first precursor;

ceasing delivery of the first precursor into the chamber, flowing the injected purge material, and forming the purge curtain while delivering purge material through the process chemical port;

ceasing delivery of the purge material through the process chemical port and injecting a second deposition precursor into the deposition chamber through the process chemical port; and

exposing the first monolayer to the second precursor and chemisorbing only one monolayer of second precursor material on the first monolayer in the absence of the first precursor not chemisorbed.

44. (cancelled).

45. (previously presented) The method of claim 43, wherein the purge curtain is concentric to the substrate holder and flows axially with the substrate holder.

46. (previously presented) The method of claim 43, wherein the purge curtain is annular.

47. (previously presented) The method of claim 43, further comprising flowing the injected purge material and forming the purge curtain while injecting the second precursor to prevent the injected second precursor from migrating towards the body.